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The paper describes a simple, yet effective method of computing a comparative index of instructional costs. The Instructional Cost Index identifies direct cost differentials among instructional programs. Cost differentials are described in terms of differences among numerical values of variables that reflect fundamental academic and resource allocation policies. The pragmatic management information provided by policy variables and the resultant Instructional Cost Index may be used by decision makers at all levels as an alternative to similiar information provided by other, more complex instructional cost methdologies that require substantially more input data. The examples given demonstrate the modest data requirements of the Instructional Cost Index procedures. (Author/KE)

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THE INSTRUCTIONAL COST INDEX

A Simplified Approach To Interinstitutional Cost Comparison

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A SIMPLIFIED APPROACH TO INTERINSTITUTIONAL COST COMPARISON*

ABSTRACT

The paper describes a simple, yet effective method of computing a comparative index of instructional costs. The Instructional Cost Index identifies direct cost differentials among instructional programs. Cost differentials are described in terms of differences among numerical values of variables which reflect fundamental academic and resource allocation policies. The pragmatic management information provided by policy variables and the resultant Instructional Cost Index may be used by decision makers at all levels as an alternative to similar information provided by other, more complex instructional cost methodologies which require substantially more input data. The examples given demonstrate the modest data requirements of the Instructional Cost Index procedures.

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THE INSTRUCTIONAL COST INDEX:

A SIMPLIFIED APPROACH IN INTERINSTITUTIONAL COST COMPARISON

In 1973, the presidents of the one hundred and eighteen public and private colleges and universities of the Commonwealth of Massachusetts formed a Public/Private Forum on Higher Education. The Forum's purpose is to further cooperation among the schools in responding to numerous statewide policy proposals which affect both private and public higher education in Massachusetts. Early in its deliberations, the Forum found that intelligent decisions could not be made without quantifiable data to support assessments of current situations and forecasts of future trends. To deal with the need for additional data, a small working committee was established to advise the Public/Private Forum on basic higher education information appropriate for influencing policy decisions. The committee is charged with the responsibility of recommending data collection procedures appropriate to statewide cooperation and planning efforts.

The initial committee project, referred to as the Cost Study, is directed toward developing uniform cost analysis procedures. Recommendations will be completed by October 1974. Every effort has been made to utilize the analytical developments of other groups and agencies in order that the recommendations adhere to accepted norms and standards for higher education data reporting and analysis in a manner appropriate to the unique mix of Massachusetts public and private institutions. The findings of the initial Cost Study efforts are the subject of this paper.

Objectives of the Cost Study

In the context of limited time and resources, the following are primary objectives of the Cost Study:

1. To identify the magnitude of direct instructional cost differences among the colleges and universities in the State.
2. To provide information on factors which contribute to instructional cost differentials.
3. To provide a reasonable basis for comparative interpretation and analysis of instructional cost differentials.

There are also certain ancillary objectives of the Cost Study:

1. To serve as a first step in the evolution of a statewide higher education information system.
2. To provide institutions with information useful for institutional management.
3. To assist institutions in the development of the capability to provide analytical support for internal institutional management.
4. To promote interinstitutional cooperation at all levels including formal and informal exchange of ideas.

Preliminary to the development of a uniform cost reporting system and attendant procedures is the development of specifications for uniform data definitions, a program classification structure, and other standards that must apply to data collected for cost analysis. The resulting methodology, including definitions, forms, methods, procedures, and analytic systems, will be designed to provide information which will aid the Forum in dealing with major policy

issues such as tuition levels, financial support for higher education, statewide program planning, and statewide student aid.

Because of time and resource limitations, a number of questions germane to higher education cost comparisons could not be adequately investigated. These include such questions as faculty effort analysis, program structures and capital costs. It was decided to rely heavily on NCHEMS[1] definitions and procedures for faculty effort and program structures. However, no such agreed upon standards exist for capital cost expenditures[2]. Although the cost of capital expenditures can significantly influence the outcome of a cost analysis, there is no agreement at the present time as to whether capital cost should appropriately be distributed to the cost of institutional programs. Capital expenditures at many institutions are critical to internal management decisions, and are an important component of the full cost of higher education. However, capital costs usually do not directly influence the operating costs of the instructional program except as an amortization expense component of total annual cost. For this reason, we concluded that the purposes of this study are best served by excluding such costs. Capital costs and expenditures will be considered as part of a more comprehensive higher education information reporting project.

Thus, the Cost Study is a limited scope effort. It will recommend a methodology to identify differences in cost factors among the colleges and universities in Massachusetts. Because of the unique mix of public and private

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[1] NCHEMS, the National Center for Higher Education Management Systems, has provided many accepted standards appropriate to data analysis including [12], [9], and [15].

[2] The issue of accounting for capital cost is not unique to higher education, e.g., [30]. NCHEMS has proposed standards [27] which are now being reviewed nationally.

institutions in Massachusetts[3], it is necessary to focus on a simplified procedure that minimizes data requirements and at the same time accommodates the diversity of programs present in the many types of colleges and universities that are to participate in the overall study. Subsequent phases of the Cost Study will be a test of the methodology followed by a full-scale implementation of the data collection and reporting procedures.

The Instructional Cost Index

In undertaking the Cost Study, it was anticipated that the committee would be able to borrow heavily from the costing methodology proposed by the National Commission on the Financing of Postsecondary Education and the National Center for Higher Education Management Systems (NCHEMS). After reviewing these recommendations [17], [27] and the work undertaken in other states [7], [26] it appeared that the methodologies follow well defined cost accounting procedures yielding cost figures as precise as the methodologies are complex. For our purposes, however, accuracy is more important than precision, both in the identification of cost differentials and in the identification of probable causes of the differences. The focus on cost differentials required the undertaking of what was thought to be a departure from contemporary[4] costing procedures as represented, for example, by the recommendations of the National Commission on the Financing of Postsecondary Education. No claim of basic originality is made for our proposed procedure except possibly as a unique application of some fundamental notions[5]. Our basic proposition is that the purpose of cost analysis

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[3]Approximately 58% of the students in Massachusetts are enrolled in private colleges and universities [21].

[4]Contemporary costing methodologies have not changed significantly for at least fifty years. See, for example [25].

[5]The basic relationships have been described by many authors including [19], [23], [29] and [32].

is to provide information which will facilitate planning and management decisions. It follows that differentials among the cost indicators provide little information unless the factors that caused the differentials are well understood by the policy makers [24].

It is important to understand that we have not undertaken an instructional cost accounting study to determine the direct "cost of instruction". Our intent is rather one of simplified instructional cost analysis. Indeed, any cost study which purports to attribute a factual cost value to activities requires an explicit determination of three fundamental questions:

1. The cost of what?
2. The cost to whom?
3. The cost for which specific purposes?

Our purpose is policy analysis. For this purpose, the cost to the institution[6] for direct instructional activities may be derived from a "process cost accounting" procedure [3] by imputing a cost indicator from data elements which are basic to the instructional program. Thus, we regard instructional cost values as information indices which are tools useful for policy analysis. Alternatively, the direct program costs of other institutional activities are derived by using a total cost approach since our primary focus is instruction. In program areas such as research, academic support, student services, etc., we have adopted standard accounting procedures as recommended by College and University Business Administration (CUBA)[2], NCHEMS at WICHE [27], and the Joint Accounting Group (JAG)[15].

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[6] We use Anthony's definition of cost as a measure of the use of resources [4].

Determining cost values for policy purposes requires a methodology different from that required for other purposes, such as using cost values as a pricing tool for resource acquisition. Cost analysis for pricing purposes typically requires a "job costing" procedure [3] that utilizes cost centers, allocation conventions, and detailed accounting procedures. When costs are built up from individual cost centers, accounting procedures and conventions must handle all exceptions that might arise in determining the cost associated with each specific activity or cost center. Similarly, allocation conventions for attributing overhead costs to primary cost objectives may be useful for pricing purposes. However, overhead distributions do not contribute information for policy making on direct program activities.

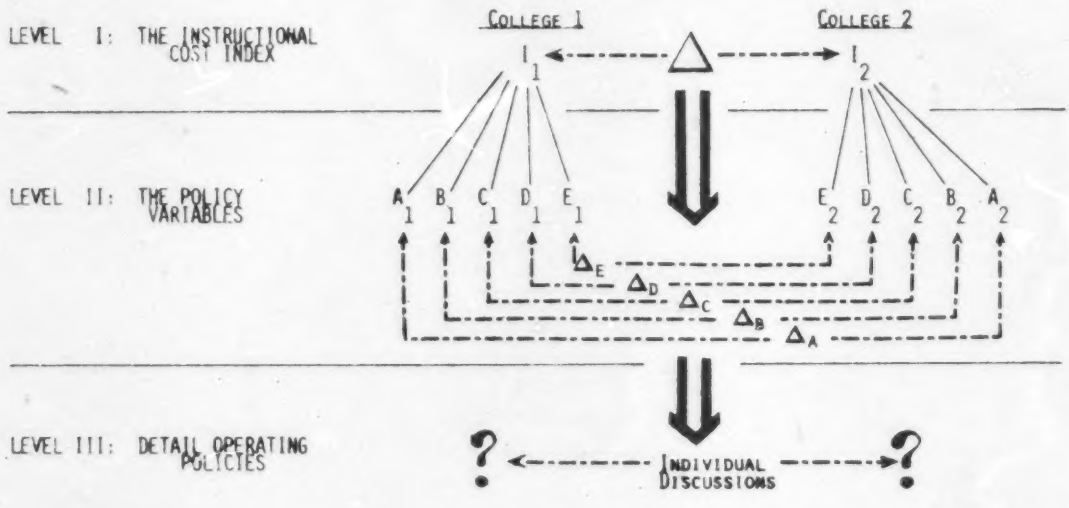
Good policy analysis does not leave the policy maker at the mercy of the analyst. When the procedures used in cost analysis are so complex that variations in cost differentials are confounded in conventions, allocations, and algebraic manipulations, the influence of policy variables is masked. For these reasons, among others, we have avoided the "full cost" notion of unit costing, where cost differentials are often due to allocation conventions, rather than management decisions as reflected by policy variables. Simply stated, the policy decisions of the institutions are reflected only in direct costs of each program. Indeed, only the direct costs of activities are controllable in a management sense.

It should be noted that the Instructional Cost Index procedure deals with only two levels of information. As represented by Figure 1 below, the first level is the Index itself, which provides summary information pointing out where

differences exist between indices[7], for example, between two institutions. The second level of information is the numerical values of the policy variables which explains the numerical differences of the indices. A third level of information is the description of detailed operating policies that explains the differences between policy variable values. This third level is clearly beyond the scope of simple data collection. It is appropriately left to discussions between individual institutions.

Figure 1

A REPRESENTATION OF INFORMATION LEVELS (CASCADING DATA)



To make effective decisions, administrators must avoid bogging down in search of artificial precision. The policy analyst's basic rule has been stated as, "It is better to be roughly right than exactly wrong!" [8].

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[7] These procedures apply equally to comparisons within an institution, by department or discipline, by level of instruction, between alternative types of institutions, or various combinations of level, discipline, and institution.

We take this precept as our basis for proposing the Instructional Cost Index procedure as a simple yet effective method of identifying approximate indicators of instructional cost. This approach does not provide absolute precision and universal utility as a costing methodology. But it does provide useable information to assist policy decision making. Under most circumstances, policy information requires accuracy rather than precision. Moreover, analytical procedures must be easily understood by policy makers lest they mislead or confuse. The Instructional Cost Index meets these criteria.

Policy Variables of Instructional Cost

We identify the following policy variables as a minimum set for analyzing instructional costs:

1. Faculty compensation.
2. Relative faculty effort.
3. Class section size.
4. Faculty teaching load.
5. Instructional support expense.

The numerical values of these variables characterize institutional policies that influence significantly the direct cost on instruction. Instructional support expense includes the expense of graduate students, distributed departmental support personnel and expenses, and certain directly identifiable instructional expenses. This variable describes for many programs the degree of non-faculty resource support. It is often indicative of program enrichment. The other policy variables determine the faculty salary component of the direct instructional cost. As indicated earlier, the purpose of the policy variables is to provide numerical information to help decision makers focus on probable causes of differences in instructional cost indices. It should

be noted that these policy variables are not suggested as independent variables, but only as *prima facie* indicators of policy. Thus, beyond being indicative of instructional policies, the numerical values of policy variables have only that significance which ultimate investigation and discussion reveals.

Faculty compensation is the policy variable which reflects the institution's policy and priorities with respect to salary levels among the various faculty. Since institutions of higher education are labor intensive, expenditures which follow from faculty compensation policies are typically the major items of institutional operating budgets. Class section size reflects the discipline or department policy on small or large classes, and is a more meaningful variable than the student/faculty ratio which is sometimes used mistakenly as a class size policy gauge[8]. The average class section size, a variable that relates both to academic and fiscal policy, may vary among disciplines, instruction types (classroom, class laboratory, tutorial, etc.), and level of instruction. Faculty teaching load is another policy variable for which the numerical value may be viewed as a consequence of academic and fiscal policies and priorities. Although faculty teaching load is a measure of the distribution of the formal instructional activity of the organizational unit, it does not indicate the extent of the faculty resource committed to or expended on instructional activities. For this purpose we have defined relative faculty effort as a policy variable indicative of the amount of time or effort which faculty spend on instruction as compared to all other activities for which they receive institutional compensation.

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[8]See, for example, [11].

A comparison of the numerical values of the policy variables will indicate quantitative causes for variations among the cost indices. Although the Instructional Cost Index provides little explicit information on the reasons for second level numerical variations among the policy variables, these second level differences can provide direction and incentive for further exploration. Investigating differences in the numerical values of policy variables is an appropriate *first step* in using the Instructional Cost Index information for improved institutional management, as well as for statewide policy considerations.

Range of Values

The range of possible numerical values for each policy variable depends on the level of data aggregation and analysis. For purposes of this discussion, we assume that the policy variables relate to the Instructional Cost Index as an average of the values at the aggregate discipline category level by institution. Typical ranges under this assumption are arrayed in Figure 2.

Figure 2

RANGE OF THE FUNDAMENTAL POLICY VARIABLES

POLICY VARIABLE	RANGE OF TYPICAL AVERAGE VALUES*	RELATIVE VARIATION
FACULTY SALARY	$11,000 - $22,000	1:2
FACULTY LOAD	6 HR. - 15 HR.	1:2½
RELATIVE FACULTY EFFORT	0.40 - 0.98	1:2½
CLASS SIZE	6 - 60	1:10
INSTRUCTIONAL SUPPORT EXPENSE	$2 - $100	1:50
INSTRUCTIONAL COST INDEX	7 - 700	1:100

*VALUES SPECULATED FROM A LIMITED SAMPLE OF INSTITUTIONS

The average faculty compensation across Massachusetts' colleges and universities will range from about $11,000 to $22,000[9], or a maximum relative change on the order of 1:2. Similarly, the relative variation of the average relative faculty effort and average faculty load may each be reasonably estimated to be approximately 1:2½. Average class size typically takes on a much larger range of numerical values; a relative range of 1:10 seems reasonable across various academic disciplines and institutions. Because of the variety of instructional delivery systems used by the many academic disciplines and the alternative resource mixes required for instruction in these disciplines, the instructional support expense variable may take on a wide range of values, which we estimate is between $2 and $100 per instructional unit. Obviously, it will be necessary to examine data from various institutions before these hypothetical ranges can be verified. For current purposes, however, the ranges seem sufficiently accurate.

The Instructional Cost Index varies directly with average faculty salary and relative faculty effort, and inversely with average faculty load and average class size for fixed values of support expense. The practical academic relationships among the policy variables suggest that extreme values of the Index are unlikely *within* an institution. However, *across a large number* of public and private institutions -- as in Massachusetts -- wide variations are expected. Given the possible values for policy variables enumerated above, it seems clear that the policy variables most likely to cause large variations in the Index are average class size and instructional support expense.

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[9]This estimate is based on the Fall 1973 AAUP salary survey [1].

Distributing the Relative Faculty Effort

College and university faculty frequently engage in assigned activities beyond the instructional program. Thus it is necessary to identify that portion of faculty cost which is appropriately distributed to instructional programs. Consequently, the Instructional Cost Index includes a policy variable which reflects the proportion of faculty effort[10] devoted to instructional activities. Under most circumstances, this factor will range from an average of 40% to 98% of the faculty effort in a given department. It may vary from 0% to 100% for individual faculty persons. The proportion of faculty effort devoted to instruction may, for some institutions, be the most difficult data element to provide. For example, distributing the relative faculty effort by level of instruction often requires an imprecise determination of what is basically a subjective variable. Since in many cases variation in the average by department is quite small, some institutions may wish to estimate the relative faculty effort using judgments of individuals familiar with the instruction program, e.g., department chairmen. Other institutions, especially larger ones, may prefer to conduct substantive analyses of faculty activities in order to generate information for other purposes.

For the purpose of aggregate analysis, particularly among homogeneous units, it may be sufficient to use a single variable that estimates the proportion of faculty effort across all levels of instruction. Moreover, for comparison of like institutions it may be sufficient to assume that the relative faculty effort is equivalent in all cases and, thus to ignore this particular variable. Whether relative faculty effort is included in the Index depends primarily on

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[10] We equate "effort" to the proportion of faculty assignment attributable to a program activity. See [22].

the purpose of the analysis, but also on the information value of the data, the degree of precision sought, and the extent of homogeneity among the units to be compared.

Data Requirements

The basic Instructional Cost Index procedure requires only seven data elements:

1. The total measure of instructional offerings[11].
2. The total measure of student instructional activity[12].
3. The average relative faculty effort.
4. The full-time equivalent number of faculty.
5. The total faculty compensation expense.
6. The expense for directly identified instructional support (e.g., teaching assistants, lab supplies, etc.).
7. The total academic department expenses for support personnel, supplies, etc., not directly attributed to the instructional program.

Since the Index is intended for wide use, the data on which it rests must be widely available. For this reason, the seven data elements selected represent the minimum set of those data elements currently used (or at least, in our opinion, those that should be used) by academic administrators for policy planning and analysis. Moreover, special efforts were made to insure data element compatibility with standards being developed at NCHEMS [9] and with definitions that have been proposed as national standards by the National Commission on the Financing of Postsecondary Education [17]. These standards apply primarily to the costs of instruction. Financial data

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[11] Instructional offerings (i.e., courses) are measured in terms of credits, contact hours, sections, or some other means of weighting each instructional activity.

[12] Student instructional activity is determined from the number of students engaging in a particular instructional activity (those enrolled) and the weight attached to that activity (course credit hours, weekly contact hours, etc.).

relating to other areas of institutional operations are defined according to JAG [15] and CUBA [2] categories.

The Instructional Cost Index may be expressed in terms of seven basic data elements. Alternatively, it may be expressed in terms of fundamental policy variables which are derived from the basic data elements. Because of this flexibility, the Instructional Cost Index has a number of distinct advantages for policy making purposes. Data requirements are minimal. Data elements conform to national standards suggested by NCHEMS and the Federal government. The relationship between values of the Cost Index and corresponding values of policy variables is straightforward and easily understood. In addition, the policy maker is not dependent upon the outcome of analysis for information, but can proceed directly from cost differences to policy variable values in order to determine which factors caused the differences. Moreover, the myriad of minor accounting exceptions that arise in complex educational situations cause only minor perturbations in the Index, and can be ignored for our purposes. Thus the Instructional Cost Index is both simple and useful for policy makers.

Application of the Instructional Cost Index

To demonstrate the application of the Instructional Cost Index, data were collected from five sample academic departments at the University of Massachusetts at Amherst. Table 1 displays this data as representative of discipline clusters required for the Instructional Cost Index computations. The data have been summed to represent a college total. Although only seven basic data elements are required, three of these elements are displayed by level of instruction in the belief that more useful policy information emerges if the Instructional Cost Index is developed from data for distinct levels of instruction (lower

division undergraduate, upper division undergraduate, and graduate). These distinctions are desirable because large cost differentials may exist between levels of instruction. In addition, a Cost Index by level of instruction will assist comparisons among different types of institutions (e.g., two- and four-year institutions). Data elements required for analysis by level of instruction are student credit hours, course credit hours, and relative faculty effort.

TABLE 1

BASIC INPUT DATA REQUIRED FOR THE INSTRUCTIONAL COST INDEX

DATA ELEMENT	LEVEL OF INSTRUCTION	DISCIPLINE CLUSTER: BUSINESS	BIOLOGICAL SCIENCES	HUMANITIES	ENGINEERING	SOCIAL SCIENCES	COLLEGE TOTALS
STUDENT CREDIT HOURS	LOWER	5,781	10,693	5,938	1,310	6,285	30,007
	UPPER	2,817	5,601	11,051	1,272	11,501	32,242
	GRADUATE	1,905	1,749	13,156	1,105	1,368	19,283
COURSE CREDIT HOURS	LOWER	195	141	269	61	125	791
	UPPER	96	167	531	130	257	1,181
	GRADUATE	94	404	899	163	267	1,827
RELATIVE FACULTY EFFORT	LOWER	17%	14%	19%	11%	10%	14%
	UPPER	22%	20%	20%	22%	20%	21%
	GRADUATE	29%	31%	30%	28%	28%	29%
FULL-TIME EQUIVALENT FACULTY	ALL LEVELS	17.7	44.2	104.7	26.2	36.5	229.3
FACULTY COMPENSATION	ALL LEVELS	$366,315	$905,195	$1,917,339	$565,856	$731,048	$4,485,753
SUPPORT PERSONNEL & SUPPLIES	ALL LEVELS	$ 19,596	$267,648	$ 102,881	$ 71,011	$ 60,819	$ 521,955
OTHER DIRECT INSTRUCTIONAL COSTS	ALL LEVELS	$ 24,154	$131,550	$ 28,105	$ 47,839	$ 83,611	$ 315,259

Student credit hours and course credit hours by level of instruction were available from institutional files. Relative faculty effort data, more difficult to obtain, required an estimating procedure. The estimates were developed from a previously administered campus faculty activity analysis.

Information in Table 2 was obtained by computing average class size, average faculty load, average faculty salaries, and average support expenses from the basic data presented in Table 1. Relative faculty effort data in Table 2 is a summation of relative faculty effort by level of instruction. An Instructional Cost Index for each discipline cluster was calculated using these five policy variables.

TABLE 2
POLICY VARIABLES DERIVED FROM BASIC INPUT DATA

POLICY VARIABLE	DISCIPLINE CLUSTER: BUSINESS	BIOLOGICAL SCIENCES	HUMANITIES	ENGINEERING	SOCIAL SCIENCES	COLLEGE TOTALS
AVERAGE CLASS SIZE (ENROLLEES)	27.3	25.3	17.9	10.4	29.5	21.5
AVERAGE FACULTY LOAD (SEMESTER SCH/FTE FACULTY)	10.9	8.1	8.0	6.8	8.9	8.3
RELATIVE FACULTY EFFORT (PERCENT)	68%	65%	69%	61%	58%	64%
AVERAGE FACULTY COMPENSATION ($/FTE FACULTY)	$20,696	$20,480	$18,313	$21,598	$20,029	$19,563
AVERAGE SUPPORT EXPENSE ($/SCH)	$ 3.43	$ 16.92	$ 3.29	$ 24.72	$ 6.21	$ 7.96
INSTRUCTIONAL COST INDEX	27.1	49.5	47.2	118.3	28.3	43.2

Examination of the data in Table 2 will point to the policy variables that cause differences in the Instructional Cost Indices. For example, the Instructional Cost Index for Engineering is approximately 2.5 times greater than that for Humanities. The average class size in Engineering is approximately one half that of Humanities, and can be identified as a major cause of the Index differential.

Although slight differences are discernable in faculty load, relative faculty effort, and faculty compensation, the two largest contributors to the differential are class size and support expense. A comparison between Business and Social Sciences, two discipline clusters that have almost equal Instructional Cost Indices, indicates that the values of each set of policy variables are relatively close. Table 2 is an example of the type of analysis which may be conducted using data from the Instructional Cost Index. Similar analyses may be conducted across a number of colleges and universities for interinstitutional comparison. Again, it is important to note from this example that, although data requirements are minimal, the resulting policy information may be substantial.

Much attention has recently been given to comparing annual student costs[13]. Such comparisons, if examined carefully, will indicate two types of differentials: those due to curricular differences, and those due to instructional differences. It may be argued that in many cases curricular differences contribute to the differential only because of instructional cost differences among departments. Therefore, it seems to us that annual per student cost data may not contribute significantly to improved college planning and management. Nonetheless, in some instances, it may be required to compare the annual direct instructional cost per student across fields of study, student levels, and/or institutions. For these purposes, the Instructional Cost Index may be used as an approximate cost, which, when weighted by the average distribution of a student curriculum, yields an estimate of annual direct instructional cost per student. An example of this application is displayed in Table 3, where the computed Instructional Cost Index for several discipline clusters is shown with the distribution of

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[13]See, for example, [16].

mean annual student credit hour loads for several fields of study[14]. The average annual student cost by major field of study is obtained by multiplying the Instructional Cost Index for each discipline cluster by the average annual student load within that cluster and summing the products for each average student curriculum. This type of information may be used to array the average annual student cost in various disciplines for internal institutional comparisons. If these cost values are arrayed, data such as shown in Table 3 should be provided in order to unravel the differences among student cost and to distinguish curricular differences from instructional cost differences.

TABLE 3

EXAMPLE OF COMPUTING AVERAGE ANNUAL DIRECT INSTRUCTIONAL COST PER STUDENT

		Student Major Fields of Study									
		BUSINESS		BIOLOGICAL SCIENCES		HUMANITIES		ENGINEERING		SOCIAL SCIENCES	
Discipline Cluster	Instructional Cost Index	AVG. SCH	AVG. COST	AVG. SCH	AVG. COST	AVG. SCH	AVG. COST	AVG. SCH	AVG. COST	AVG. SCH	AVG. COST
BUSINESS	27.1	10	$ 271	2	$ 54	---	$ ---	---	$ ---	---	$ ---
BIOLOGICAL SCIENCES	49.5	8	$ 396	10	$ 495	8	$ 396	8	$ 396	6	$ 297
HUMANITIES	47.2	6	$ 283	8	$ 378	12	$ 566	6	$ 283	12	$ 566
ENGINEERING	118.3	--	$ ---	--	$ ---	---	$ ---	12	$1,420	---	$ ---
SOCIAL SCIENCES	28.3	6	$ 170	12	$ 340	11	$ 311	4	$ 113	12	$ 340
TOTALS PER YEAR		30	$1,120	32	$1,267	31	$1,273	30	$2,212	30	$1,203

Note: Average cost numbers are rounded to the nearest dollar.

[14] It should be noted that in order to construct Table 3 it is necessary to compute the mean number of units taken in each department by a student in a given major field of study. The array of these values is known as an Induced Course Matrix (ICLM). Further information may be found in [6].

Conclusion

Information provided by the Instructional Cost Index and related policy variables is useful for policy analyses requiring comparative data on instructional costs. This information is easily understood by both administrators and analysts and provides useful insight to institutional policies. Such insights may assist decision making at various management levels. Moreover, the Instructional Cost Index is a powerful method for identifying cost differences from a simple and relatively accessible data set. For these reasons, the Instructional Cost Index is an appropriate and desirable methodology for accomplishing simple intrainstitutional and interinstitutional cost comparisons required for policy purposes.

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